

Re: Amendments to Application Number 10/801,864

July 21, 2004


(B) Amendments to the Specification:

Page 6, line 3, text added as underlined

Page 44, lines 24, 25, 26 and 27, text added as underlined

Page 62 (Abstract), lines 2 and 3, text added as underlined

Signed by Applicant/Inventor  
Romijn, Maarten Martinus

A handwritten signature in black ink, appearing to read "M.M. Romijn", with a long horizontal flourish extending to the right.

mechanism of quality assurance and/or registration numbers casu quo country and/or state license plate numbers can compensate the carbon dioxide emissions of about half a dozen compact cars- or can equal the carbon sink capacity of one acre of mature tropical forest.

Numerous prior art references describing photovoltaic solar cells, hereinafter called PV cells, for electricity generation were screened through prior art searches in US classification 257/457 and related classifications as well as in international classification H01L/27 and related classifications, of which patent no. US 6,696,731 assigned to Samsung corporation is a typical example. The prior art pertaining to PV cells casu quo PV cell modules for electricity generation fails to disclose or suggest a combination of PV cells and a solar cooker for simultaneous casu quo alternating cooking and/or electricity generating operations.

Heretofore, numerous efforts have been made to develop a practical and workable solar cooker. The following noted patents found as a result of patent searches carried out in U.S. classification 126 and related classifications as well as in international classification F24J2 and related classifications are exemplary of the known efforts made by others to attain a practical and workable solar cooker; viz. U.S. Pat. Nos. 820,127; 1,074,219; 1,158,175; 2,859,745; 2,909,171; 2,994,318; 3,038,463; 3,053,248; 3,896,786; 3,938,497; 4,077,391; 4,082,079; 4,083,357; 4,130,106; 4,220,141; 4,236,508; 4,262,660; 4,281,644; 4,284,071; 4,292,957; 4,442,828; 4,446,854; 4,561,425; 4,583,521; 4,696,285; 4,848,320; 4,850,339; 4,913,130; 5,090,399; 5,113,845; 5,139,010; 5,524,610; 5,617,843; 5,893,360; 6,606,988; and viz. WO8703073; WO9739669; WO02075226; WO03006894; EP0099423; CN1035349; CN1040673; CN2098654U; CN2169093U; CN2181658U; CN2252966U; CN2374861U; CN2443681U; CN2451967U; CN2569029U; IN155889; IN158556; IN158891; IN159461; IN159541; IN162938; IN175856; IN178752; IN181453; IN184675; DE3120520; DE3545890; DE3607484; DE3611375; DE3616007; DE3706348; DE4009754; DE4142119; DE4218403; DE4308458; DE4338736; DE19545108; DE19603742; DE19807465; JP56097755; JP63306357; JP2101350; JP4366363; JP8233374; JP10094480; JP11325612; JP2000146309; JP2001183012; JP2001238712; FR2565678; FR2588644; FR2596503; FR2692659; FR2692660; FR2787867; FR2801097; GB2341675.

The prior art concentrating type of solar cookers such as for example the parabolic mirror type having the mirror positioned under the cooking vessel has too many drawbacks such as for example cumbersome sun tracking requirements, local hot spots burning the food, glare blinding the cook, sensitivity to wind and food spills fouling said mirror, to be considered for mass cooking. Generally the prior art fails to quantify solar energy collectable by the prior art solar cooker embodiments and also fails to disclose or suggest prior art solar

As an alternate embodiment to said connecting rods compelling the rocking movement of said PV cell module support rack, pulling ropes casu quo cords **52** are installed between suitable points of engagement on said rocker arms **40** and said PV cell support rack, for example via pulleys **53** installed on casu quo in supports **54** extending from the frame of said cooker. Optimization of PV cell tilt angle for latitudes and/or seasons can be accomplished by optimizing the points of engagement of said ropes casu quo said cords on said rocker arms and/or said PV cell support rack. For ease of optimizing tilt angle of said PV cell support rack, a shadow-casting gnomon **55** is positioned on the outer edge of said PV cell support rack, as shown in FIG. **25B**, and whereby a small or no shadow is indicative of an optimum position.

In this embodiment the curved and flat reflective surfaces casu quo walls of said half-barrel shaped concave reflective cavity are insulated on their convex side casu quo their outside surfaces. In operation, said insulated **56** reflective walls under said cooking trays enable an increase in temperature inside said half-barrel shaped concave reflective cavity, by putting to good use any heat resulting from non-ideal reflections inside said concave reflective cavity. As a result the hot surfaces on the underside of said cooking trays “face” a “space” and a reflecting surface which is hot and has a low absorptivity, consequently heat losses from said cooking trays are reduced, net to food cooking power is increased and higher food processing temperatures can be reached faster and maintained longer.

To further reduce heat losses from said concave reflective cavity through said first window  $w_1$  reflective hinged wind shields **58** are installed, perpendicular to said lower hinge **15** line of said mirror **14** on both sides of said first window  $w_1$ . In operation said windshields **58** can be held upright by shadow-casting elastic cords **19** with shadow-casting beads **35** installed between said windshields and said cross bar **39**.

This most preferred compact embodiment provides a practical personal clean energy system, other embodiments of the present invention enable many enhanced natural sunlight operations such as for example accelerating the growth of plant seedlings or sunning the human body by taking a sunbath under said tiltable and bendable mirror **14**.

The present invention has been described in an illustrative manner. In this regard it is evident that those skilled in the art or science casu quo the commerce to which the present invention pertains, once given the benefit of this disclosure, may now make modifications to the method and the specific embodiments described herein without departing from the spirit of the present invention. Such modifications are to be considered within the scope of the present invention which is limited solely by the scope and spirit of the appended claims.